## CLAIMS

1. A method of producing a transgenic plant, comprising treating the tissue of a plant with Agrobacterium thumefaciens which comprises at least one vector into whose composition there enters at least one gene of interest, **characterized in that** in the step of transformation a stagewise co-cultivation of explants is used, which comprises:

i) a step of selecting one or more leaf segments for preparing explants;

ii) a step of preparing leaf disks by separating a segment from each disk, followed by inoculating and co-cultivating the leaf disks with agrobacteria;

iii) a step of removing excess agrobacteria from the leaf disks, separating a first lot of explants from the side of the first section;

iv) a step of transferring explants onto the selection and regeneration medium;

v) a step of preparing subsequent lots of explants in accordance with steps iii) and iv) till the last lot of explants from the selected leaf disks has been formed;

wherein the preparation of each of the subsequent lots of explants is carried out after a time interval required for the transformation of plant cells and formation of acquired resistance to abiotic and biotic stresses in the leaf disks and for -lowering the frequency of somaclonal variations in the transgenic plant.

2. A method according to claim 1, characterized in that the vector contains genetic material which codes for at least one target protein.

3. A method according to claim 1, characterized in that the vector contains genetic material which codes for at least one protein which contributes to lowering necrosis in the step of transformation.

4. A method according to claim 1, characterized in that the vector contains genetic material coding for at least one protein which enhances the plant resistance to phytopathogens and which is selected from the groups: PR-1, PR-2, PR-3, PR-4, PR-5.

5. A method according to claim 1, characterized in that the vector contains genetic material coding for a combination of proteins according to claims 2, 3 or 2, 4, or 3, 4 or 2—4.

6. A method according to claim 4, characterized in that the vector contains genetic material coding for thaumatin, belonging to the group PR-5.

7. A method according to claim 4, characterized in that the genetic material codes resistance to fungi selected from the group consisting of *Phytophthora fragariae, Verticillium alboatrrum, Mycospaerella fragariae,Diplocarpon earliana, Dendxrophoma obscurans, Botrytis cinerea, Sphaerotheca humuli.*

8. A method according to claim 1, characterized in that plants for the transformation are selected from the group of dicotyledons.

9. A method ac cording to claim 1, characterized in that for the transformation the dicotyledonous plant is selected from the group consisting of: apple, pear, garden strawberry, carrot and tomatoes.

10. A method according to claim 9, characterized in that for the transformation the garden strawberry plant is selected from the group of varieties: Selekta, Chambly, Chandler, Oka, Yamaska, L'Acadie, L'Authentique Orleans, Rosalyne, Roseberry, Saint-Pierre, Donna, Enzed Levin, Enzed Lincoln, Vilanova, Durval, Redcrest, Bountiful, Redgem, Pelican, Primtime, Mohawk, Latestar, Winoma, Feyerverk.

11. A method according to claim 1, characterized in that the number of steps in the stagewise co-cultivation of explants is selected in the range of from 2 to 5.

12. A method according to claim 1, characterized in that the number of steps in the stagewise co-cultivation of explants is selected in the range of from 3 to 4.

13. A method according to claim 1, characterized in that the preparation of each of the subsequent lots of explants is carried out after a time interval of from 1 to 5 days.

15. A method according to claim 1, characterized in that the preparation of each of the subsequent lots of explants is carried out after the time interval of 3 days.

16. A method according to claim 1, characterized in that the acquired resistance to abiotic and biotic stresses , growth regulators are excluded from the composition of the co-cultivation medium.

17. A method according to claim 1, characterized in that the composition of the selection medium and of the regeneration medium includes TDZ, IBA and kanamycin.

18. A method according to claim 17, characterized in that the TDZ concentration is selected from 1 to 10 mg//l.

19. A method according to claim 17, characterized in that the TDZ concentration is 5 mg//l.

20 A method according to claim 17, characterized in that the IBA concentration is selected from 0 to 0.3 mg//l.

21. A method according to claim 17, characterized in that the IBA concentration is 0.3 mg//l.

22. A method according to claim 17, characterized in that the kanamycin concentration is selected from 10 to 100 mg//l.

23. A method according to claim 17, characterized in that the kanamycin concentration is 50 mg//l.

24. A method according to claim 1, characterized in that the ratio of the section length and the explant surface area is from 0.1 $mm/mm^2$ to 2 $mm/mm^2$.

25. A method according to claim 1, characterized in that the ratio of the section length and the explant surface area is 0.5 $mm/mm^2$.